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Michael W. Kruger

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EXAMINER

STERRETT, JONATHAN G

ART UNIT

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/783,323	Applicant(s) KRUGER ET AL.	
	Examiner JONATHAN G. STERRETT	Art Unit 3623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-80 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-80 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>1-30-06;6-4-04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Summary

1. This **Non-Final Rejection** is responsive to 29 April 2004. Currently **Claims 1-80** are pending in the application.

Claim Objections

2. **Claim 64** is objected to because of the following informalities: **Claim 64** depends on **Claim 61** and recites "the removable memory device". However, **Claim 61** does not recite such a device. **Claim 63** recites a removable memory device thus suggesting the applicant intended **Claim 64** to depend on **Claim 63** (and will be interpreted as such by the examiner). Appropriate correction is required.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-46 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 1-46 are rejected under 35 U.S.C. 101 based on Supreme Court precedent, and recent Federal Circuit decisions, the Office's guidance to examiners is that a § 101 process must (1) be tied to another statutory class (such as a particular apparatus) or (2) transform underlying subject matter (such as an article or materials) to

a different state or thing. *Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780,787-88 (1876).

An example of a method claim that would not qualify as a statutory process would be a claim that recited purely mental steps. Thus, to qualify as a § 101 statutory process, the claim should positively recite the other statutory class (the thing or product) to which it is tied, for example by identifying the apparatus that accomplishes the method steps, or positively recite the subject matter that is being transformed, for example by identifying the material that is being changed to a different state.

Here, applicant's method steps, fail the first prong of the new Federal Circuit decision since they are not tied to another statutory class and can be performed without the use of a particular apparatus. Thus, **Claims 1-46** are non-statutory since they may be performed within the human mind.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. **Claims 1-80** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Swait**, Joffre; Andrews, Rick L; “Enriching Scannel Panel Models with Choice Experiments”, Fall 2003, Marketing Science, 22, 4; ABI/INFORM Global. Pp.442-460, (hereinafter **Swait**) in view of **Qian**, Jiahe; Spencer, Bruce D; “Optimally Weighted Means in Stratified Sampling”, 1994, amstat.org, pp.863-866, (retrieved from the web at:http://www.amstat.org/sections/srms/proceedings/papers/1994_149.pdf) (hereinafter **Qian**)

Regarding **Claim 47**, Swait teaches:

using retail data from at least two data sources, using product identifier and attribute categorizations, and using a plurality of factor calculations;

page 447 column 1, scanner data; page 451 column 1, SP survey data was obtained; page 447 column 2, product identifier and attribute categorizations; page 452 column 1, model definitions comprises a plurality of factor calculations.

wherein the at least two data sources includes a data source that is more accurate than a second data source; and

page 442 introduction (scanner panel data versus other data sources for data enrichment) also note page 457 Table 4 - the scanner panel data is more accurate than the SP data in prediction)

identifying a plurality of overlapping attribute segments to use for comparing the at least two data sources,

Table 2 page 451, attributes which overlap between the Scanner Panel Data and the SP data;

compare each of the overlapping attribute segments to calculate a factor for each of the overlapping attribute segments, and use the factors to update a first group of values in the second data source to reduce bias.

Table 3 pages 454-456; Table 4 page 457; Swait teaches calculating a utility factor based on a comparison of the overlapping attribute segments between the scanner data and the SP data. This utility factor is used to update (i.e. data enrichment) of the scanner panel variables to reduce bias (i.e. in Table 4, the Joint data provides a greater accuracy of prediction than the SP data (i.e. the second data source)).

Swait does not explicitly teach using at least one server and business logic (i.e. a computer program) and a database to perform the limitations regarding storing, identifying and retrieving. However, Official Notice is taken that using a server and database to perform numerical calculations is old and well known in the art as making method steps faster and more efficient. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Swait to include performing the method steps using a server, business logic and a database because it would have provided a way to make the method steps faster and more efficient.

While Swait teaches that scanner data is more accurate than the experimental panel data in their experiment, Swait is focused on correcting the scanner panel data

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using a probability utility model. Swait notes that because of its completeness, scanner panel data (i.e. data from a store barcode scanner) contains a richer set of information capturing the behavioral dynamics of the purchase decision (page 442 under introduction). Swait notes that the idea of data enrichment as applied to scanner panel data is old and well known in the art using various techniques (page 443 column 1 para 2).

Swait, however, does not teach using a weighted approach to remove bias in the scanner panel data.

Qian teaches the idea of using a weighted average approach (see page 863 column 1, $N_{sub h}$ divided by N is a weighted average using volumes) to remove bias in a strata of data using correction factors (page 863 column 1 under "1."). Here Qian teaches that in two different data sets (i.e. a population and a sample) that a weighted approach may be used to correct for bias in the population.

Since Swait teaches scanner panel data and his own SP data (i.e. a population sample and subset respectively), one of ordinary skill in the art at the time of the invention would have modified Swait using the weighted average approach of Qian to realize a predictable result through applying a weighted average approach to remove bias in the scanner panel data. Swait suggests the benefits in accuracy to be realized

through data enrichment and thus modifying Swait achieves a predictable result in the removing of bias as taught by Qian.

Regarding **Claim 48**, Swait teaches:

The system of claim 47, wherein the one or more servers are further operable to use the factors to update a second group of values in the second data source to reduce incompleteness.

Page 447 Table 3 shows how the factors are used to update a second group of values in the second data (i.e. the SP panel factors) to reduce incompleteness (i.e. since for example, “wrinkle reducer” is omitted from the scanner panel data).

Regarding **Claim 49**, Swait teaches:

49. (Original) The system of claim 47, wherein the one or more servers are further operable to calculate the factor for each overlapping attribute segment by dividing a first data source volume amount by a corresponding second data source volume amount.

Page 452 equations 4 and 5 show the calculation of factors where the sum of the purchase occasions (i.e. a volume amount) is used in the denominator.

Additionally, Qian teaches removing bias using a weighted average approach based on numbers of observations (i.e. a total “volume”) and it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the

teachings of Swait to include calculating a bias removal using a weighted average approach using volumes (i.e. to divide the first data source amount by a second data sourced amount) because it would have provided a predictable result in adjusting the scanner panel data using a weighted average approach.

Regarding **Claim 50**, Swait teaches:

50. (Original) The system of claim 47, wherein the one or more servers are further operable apply the factor for each attribute segment to the second data source by multiplying each of a plurality of second data source volume amounts by the factor for the corresponding attribute segment.

Page 453 column 2, the joint model uses a combination of coefficients (i.e. factors) that are used to update the second data source's coefficients

Regarding **Claim 51**, Swait teaches:

51. (Original) The system of claim 47, wherein the one or more servers are further operable to only calculate the factors for each attribute that is determined to be relevant.

Page 447 Table 1, the attributes listed have been determined to be relevant for the experiment.

Regarding **Claim 52**, Swait teaches:

52. (Original) The system of claim 47, wherein the one or more servers are further operable to only calculate the factors for each attribute segment that is determined to be significant.

Page 447 Table 1, the attributes listed have been determined to be significant for the experiment.

Claim 53 recites similar limitations to those addressed by the rejection of **Claim 47** above, and is therefore rejected under the same rationale.

Regarding **Claim 52**, Swait teaches

54. (Original) The system of claim 47, wherein the one or more servers are further operable to apply at least one of the factors to the second data source to correct incompleteness.

Page 447 Table 3 shows how the factors are used to update a second group of values in the second data (i.e. the SP panel factors) to reduce incompleteness (i.e. since for example, “wrinkle reducer” is omitted from the scanner panel data).

Regarding **Claims 55 and 57**, Swait teaches

The system of claim 54, wherein the one or more servers are further operable to calculate a blended factor when at least two measures are available for a same factor, said blended factor being used to reduce bias in the second data source.

Page 453 column 1 para 3, a blended factor for the combined equation is calculated from both the scanner panel data and the SP data. This blended factor is used to reduce bias in the SP data.

Regarding **Claims 56 and 58**, Swait teaches

56. (Original) The system of claim 55, wherein the one or more servers are further operable to calculate the blended factor by giving the more accurate data source a higher relative weight and by giving the less accurate data source a lower relative weight.

Page 453 column 1 para 3, page 457 table 4 – Swait teaches combining factors using a weighted average. Swait teaches that one of the data sets is more accurate than the other in forming a predictive model regarding choice utility. While Swait teaches weighted averages in combining the factors and Swait teaches one dataset is more accurate than the other (table 4), Swait does not explicitly teach weighting the more accurate data set in combining the factors. However, Official Notice is taken that it is old and well known in the art to weight data that is known to be more accurate in combining data.

It would therefore have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Swait and Qian regarding combining data using a weighted average to weight the more accurate data relatively higher, because it would have provided a predictable result in the combination of the data.

Regarding **Claims 59 and 60** Swait teaches analyzing and correcting data and teaches viewing corrected data in a multidimensional format but does not teach users stations and displays with a graphical user interface that allows a user to administer a plurality of settings for analyzing and correcting the data sources (as per Claim 59) and to view the corrected data in a multidimensional format as per Claim 60.

However, Official Notice is taken that using a user station with a graphical user interface that allows a user to administer a plurality of settings is old and well known in the art. It would have been obvious to one of ordinary skill in the art at the time of the invention to further modify the teachings of Qian and Swait to include providing a user station with a graphical user interface that allows a user to administer a plurality of settings because it would have provided a predictable result in performing the combined teachings of Swait and Qian.

Claims 1-47 and 61-80 recite similar limitations to those addressed above for **Claims 47-60**, and thus are rejected according to a similar rationale.

Regarding Claims 7-19, 31-32, 44-46, 67-73, 75, the data claimed does not patentably distinguish the invention over the cited prior art, i.e., the recited method steps would be performed the same regardless of the specific data. Further, the structural elements remain the same regardless of the specific data. Thus, this descriptive material will not distinguish the claimed invention from the prior art in terms of

patentability, see *In re Gulack*, 703 F.2d 1381, 1385, 217 USPQ 401, 404 (Fed. Cir. 1983); *In re Lowry*, 32 F.3d 1579, 32 USPQ2d 1031 (Fed. Cir. 1994); MPEP ' 2106

Furthermore regarding **Claims 63 and 64**, Swait and Qian do not recite the use of removable memory devices including a disk, however these devices and their use is old and well known in the art (Official Notice) and would have been obvious to one of ordinary skill by providing a predictable result in combination with Swait and Qian by providing for the storage and retrieval of the data used in the method steps taught by Swait and Qian.

Furthermore regarding **Claim 65**, Swait and Qian do not teach providing their method by carrying their data and logic encoded in signals over a network, however Official Notice is again taken that using a computer network to carry one or more signals encoding the logic (i.e. software) to perform the method steps of Swait and Qian is old and well known in the art and would have been obvious to one of ordinary skill by providing a predictable result in combination with Swait and Qian by providing a computer network carrying one or more signals encoding the logic to perform the method steps taught by Swait and Qian.

Furthermore regarding **Claims 21 and 74**, Swait teaches performing the method multiple times to improve the accuracy (page 453 column 1 para 2; models 1 through 5).

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 6401070 by McManus discloses a method for improving forecasts by removing bias.

Baron, Steve; Lock, Andrew; "The Challenges of Scanner Data", Jan 1995, The Journal of the Operational Research Society, Vol. 46, No. 1, pp.50-61.

Bronnenberg, Bart J; Mahajan, Vijay; "Unobserved Retailer Behavior in Multimarket Behavior: Joint Spatial Dependence in Market Shares and Promotional Variables", Summer 2001, Marketing Science, 20, 3, ABI/INFORM Global p.284.

McCulloch, Robert; Rossi, Peter E. "An exact likelihood Analysis of the multinomial probit model", 1994, Journal of Econometrics, 64, pp.207-240.

Guadagni, Peter M; Little, John D. C.; "A logit model of brand choice calibrated on scanner data", Summer 1983, Marketing Science, Vol. 2, No. 3, pp.203-238.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jonathan G. Sterrett whose telephone number is 571-272-6881. The examiner can normally be reached on 8-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Beth Van Doren can be reached on 571-272-6737. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JGS 7-5-2008

/Jonathan G. Sterrett/

Primary Examiner, Art Unit 3623